

# The West Bengal University of Health Sciences

## 1st BMLT September, 2023 Examination

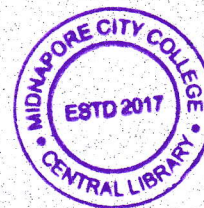
Subject : Basics of Human Anatomy and Basics of Human Physiology

Time: 3 Hours

Full Marks: 100

### Anatomy

*Attempt all questions*



1. Choose the most appropriate option : 10 x 1
- a) Ciliated columnar epithelium is present in :
    - i) Bile duct & esophagus.
    - ii) Bronchioles & fallopian tubes.
    - iii) Urethra.
    - iv) Tongue.
  - b) Heart beat originates from :
    - i) SA node.
    - ii) AV none.
    - iii) Bundle of His.
    - iv) Purkinje fibres.
  - c) Where can we find the pseudostratified epithelium?
    - i) Ureter.
    - ii) Uterus.
    - iii) Trachea.
    - iv) Brain.
  - d) The 3<sup>rd</sup> omentum connects the stomach with \_\_\_\_\_ :
    - i) Liver.
    - ii) Transverse colon.
    - iii) Spleen.
    - iv) Kidney.
  - e) Lungs are enclosed within :
    - i) Perichondrium.
    - ii) Periosteum.
    - iii) Pleural membrane.
    - iv) Pericardium
  - f) Daily requirement of vitamin D for an adult person is :
    - i) 1000 IU.
    - ii) 5000 IU.
    - iii) 100-300 IU.
    - iv) 400-600 IU.
  - g) Who is not the member of paranasal air sinus group?
    - i) Frontal air sinus.
    - ii) Mastoid air sinus.
    - iii) Maxillary air sinus.
    - iv) Ethmoid air sinus.
  - h) Which of the following is correctly matched pair of an organ & muscles present in the organ?
    - i) Intestine – Striated & involuntary.
    - ii) Heart – involuntary & unstriated smooth muscle.
    - iii) Thigh – striated & voluntary
    - iv) Upper arm – smooth muscle & fusiform shape.
  - i) Own DNA is in :
    - i) Ribosome.
    - ii) Mitochondria.
    - iii) Centriole.
    - iv) Golgi body.
  - j) Number of chromosome present in secondary oocyte is :
    - i) 44A + XY.
    - ii) 44A + XX.
    - iii) 22A + XX.
    - iv) 22A + X.
2. Write short notes on **any four** of the following : 4 x 5
- a) Supports of Uterus.
  - b) Axillary lymph nodes & its importance.
  - c) Draw & Label nephron.
  - d) Structure of ribosome.
  - e) Spermatogenesis.
  - f) Basic diagram of neuron.
3. Answer **any two** from the following :
- a) Classify epithelial tissue & write their situation. State the function of mitochondria. 6+4
  - b) Describe the “heart” under following headings : 2+3+5
    - i) What are its different chambers?
    - ii) Where you do find the anatomical base & clinical base of heart?
    - iii) Give an account of the interior of the right atrium with a diagram.
  - c) What is podocyte? State the anatomical position of kidney. Describe general arrangement of urinary system. 2+2+6

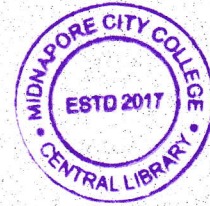
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Subject : Basics of Human Anatomy and Basics of Human Physiology

### Physiology

*Attempt all questions*



10 x 1

1. Tick the correct answer :

- a) Which of the following endocrine gland is known as 'Master Gland'?
  - i) Pineal gland.
  - ii) Hypothalamus.
  - iii) Pituitary.
  - iv) Gonads.
- b) Granulocytes are :
  - i) Acidophils.
  - ii) Lymphocytes.
  - iii) Monocytes.
  - iv) None of these.
- c) Asphyxia occurs due to?
  - i) Rise in level of CO<sub>2</sub>.
  - ii) Fall in level of CO<sub>2</sub>.
  - iii) Rise of O<sub>2</sub> level.
  - iv) Fall in O<sub>2</sub> level.
- d) Name the hormone which takes part in the release of FSH and LH from the anterior pituitary :
  - i) Growth hormone.
  - ii) GnRH.
  - iii) Somatostatin.
  - iv) TRH.
- e) Name the gland that is located at the base of the throat, just inferior to the laryngeal prominence (Adam's apple) :
  - i) Pituitary.
  - ii) Pineal gland.
  - iii) Hypothalamus.
  - iv) Thyroid.
- f) The clusters of cells in the pancreas that produce hormones are the :
  - i) Nodules.
  - ii) Islets of Langerhans.
  - iii) Pancreatic medulla.
  - iv) Pancreatic cortex.
- g) The \_\_\_\_\_ is a network of tiny blood vessels located at the beginning of a nephron :
  - i) Renal calyces.
  - ii) Renal pyramid.
  - iii) Bowman's capsule.
  - iv) Glomerulus.
- h) Complete digestion of food occurs in :
  - i) Stomach.
  - ii) Small Intestine.
  - iii) Pancreas.
  - iv) Large Intestine.
- i) Trypsinogen is converted into active trypsin by the action of :
  - i) Cholecystokinin.
  - ii) Enterocrinin.
  - iii) Enterokinase.
  - iv) Secretin.
- j) Volume of air left after maximum forceful expiration in human lung is :
  - i) Total lung capacity.
  - ii) Residual volume.
  - iii) Vital capacity.
  - iv) Tidal volume.

2. Write short notes on **any four** of the following :

4 x 5

- a) What is the role of HCl in the stomach?
- b) What do you mean by cardiac cycle?
- c) Name the types of cells in the pancreas with their functions.
- d) Describe the extrinsic mechanism of initiation of clotting.
- e) Write mechanism of action of TSH.
- f) What is Chloride Shift?

3. Answer **any two** from the following :

- a) Describe the carriage of O<sub>2</sub> by haemoglobin. What is Bohr effect? 6+4
- b) Describe the impulse conduction from SA node to Purkinje System. 10
- c) What is counter current exchange mechanism? How does it work? What is its purpose? 3+5+2